

### Trend Study 19A-5-97

Study site name: Chokecherry Springs.

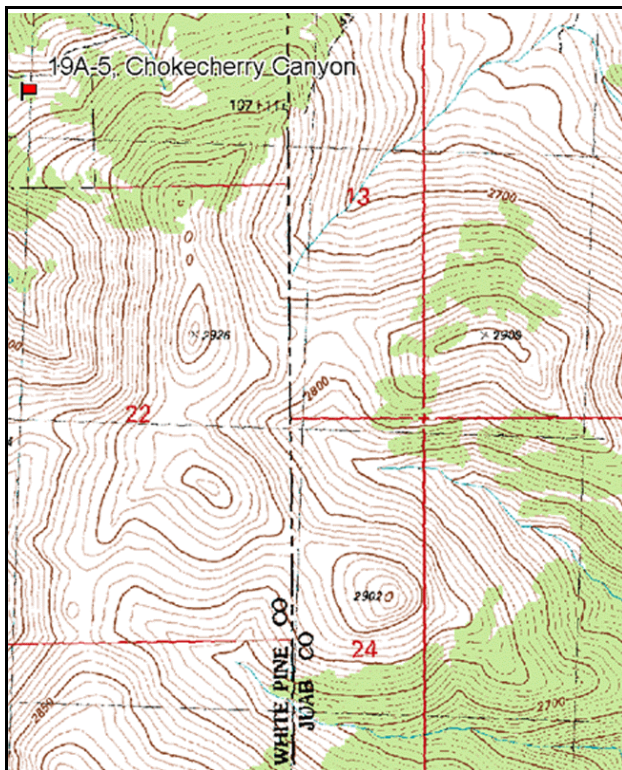
Vegetation type: Big Sagebrush-Grass.

Compass bearing: frequency baseline 180 degrees magnetic (Lines 3-4 @ 120°M).

Frequency belt placement: line 1 (11 & 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft).

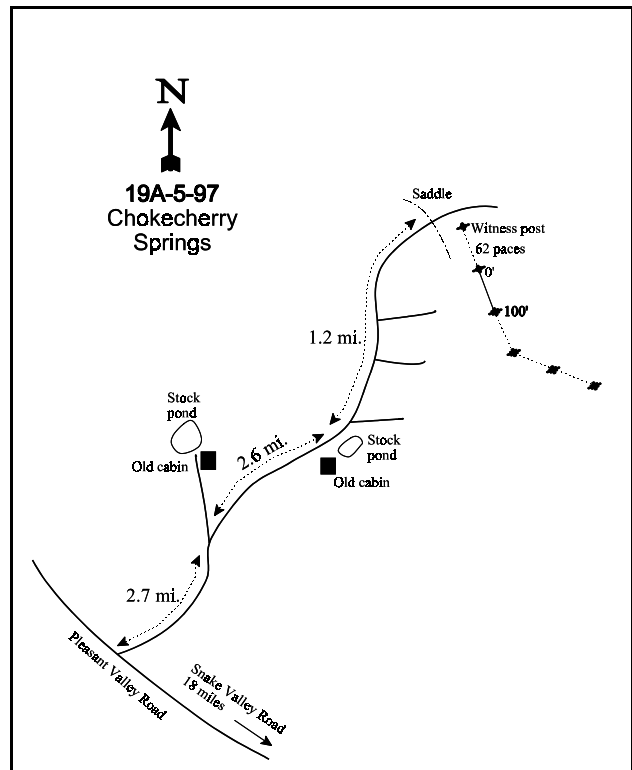
### LOCATION DESCRIPTION

From the intersection of the Snake Valley Road and the Pleasant Valley Road south of Partoun, proceed northwest up the Pleasant Valley Road for approximately 18 miles into Nevada. Continue past the Blue Mass Scenic Area 1.15 miles and turn right (northeast) on a dirt road that goes to Rye Grass Canyon. Take this road 1.8 miles and turn right at the fork. Stay on the main road for 0.9 miles where you'll come to a cabin and stock ponds. Another 2.6 miles farther on you'll come to another cabin. Go another 1.2 miles to the east up a slight dugway on the south side of a drainage and into a small saddle. From the far side (east side) of the saddle, the 0-foot baseline stake is 80 paces to the south/southeast and slightly south of a scattering of curlleaf mountain mahogany. The baseline markers are green steel fenceposts approximately 12 to 18 inches high.



Map Name: Weaver Canyon

Township 22N, Range 70E, Section 15



Diagrammatic Sketch

GPS: NAD 27, UTM 12S 4407452 N 298106 E

## DISCUSSION

### Chokecherry Spring - Trend Study No. 19A-5

\*\*\*SUSPENDED - This site was suspended in 2002 upon the request of the biologist. The site narrative and data tables are included from the 1997 report.

Due to unavailability of a suitable map at the time of study establishment in 1983, the Chokecherry Springs study was located slightly within the state of Nevada on the Goshute Indian Reservation. The study is on a 30% northwest facing slope at an elevation of 8,740 feet. The study samples a mountain big sagebrush-grass range type typical of medium altitude deer summer range on the south and central portions of the Deep Creek Mountains. This site appears to receive only light utilization by deer, cattle, and sheep. In 1989, cattle were grazing below the site and deer and elk were seen within the vicinity of the site. In 1997, cattle were observed on the site during the survey. Chokecherry Spring is located about three-fourths mile downslope and provides water year around. Other range types in close proximity include curlleaf mountain mahogany, mixed conifer-aspen, mountain brush, and pinyon-juniper. These varied range types provide ample escape cover.

Soils are rocky and well drained and derived from granite parent material. Soil textural analysis indicates a loam to sandy loam with a slightly acidic pH of 6.2. The effective rooting depth was estimated to be 14 inches. Average soil temperature was 49.2°F at a depth of 17 inches. Phosphorous levels in the soil profile measure 8.3 ppm, which may be limiting to vegetation growth because 10 ppm is thought to be the minimum necessary for normal plant growth and development. Erosion continues to be negligible as there is good vegetation and litter cover.

The key browse species, mountain big sagebrush, dominates the site with a moderately dense, mature stand. In 1997, the estimated density was 3,660 plants/acre. This is similar to past estimates of 3,465 plants/acre in 1983 and 3,999 plants/acre in 1989. Percent decadence has declined since 1989. However, 43% of the decadent plants were classified as dying. The dead to live ratio was 1:8 in 1997 (12% dead). This could indicate a slightly declining condition for the sagebrush. It was reported in 1983 that mountain big sagebrush was impacted by insect damage and underground girdling from pocket gophers. Other important forage species are mountain snowberry and Saskatoon serviceberry. Both species appear to be healthy with only light utilization. A curlleaf mountain mahogany stand is located adjacent to the study site and provides additional forage and excellent cover for big game. Other associated browse species include stickleaf low rabbitbrush, slenderbush eriogonum, Oregon grape, currant, and an unidentified species. Undesirable invader or increaser shrubs are not a problem on this site.

The herbaceous understory is both diverse and productive. Grass composition is dominated by sheep fescue, a mildly palatable increaser. Sheep fescue nested frequency has significantly increased since 1989, although quadrat frequency has remained nearly the same. Perennial grass sum of nested frequency has declined since 1989, although it is still higher than that of the initial survey in 1983. Other important grasses include bluebunch wheatgrass, needle-and-thread grass, subalpine needlegrass, slender wheatgrass, and two species of bluegrass. All are lightly utilized and have good vigor. No annual grasses were encountered.

Forb sum of nested frequency has nearly doubled since 1983. The forbs produce as much total cover as do the grasses. Important species include low penstemon, fleabane daisy, Wyoming painted cup, tuber starwort, silky lupine, and longleaf phlox. Many other succulent and desirable species occur in addition to these. Vigor of forbs is excellent and utilization is currently light to non-existent.

## 1983 APPARENT TREND ASSESSMENT

Overall trend appears stable. Soil loss is minimal because of good vegetation and litter cover. No obvious vegetative change is apparent and current range condition is good. The abundance of increaser grasses (i.e., sheep fescue, needle grasses, etc.) suggests a long history of livestock use. However, the browse and forb components have suffered no apparent decline.

## 1989 TREND ASSESSMENT

The soil trend is stable with good vegetation and litter cover. The browse trend is stable. The mature mountain big sagebrush stand appears to be stable, although there is a deficiency of young and seedling shrubs. If the present trend continues, grasses may pose serious competition for the browse component of the community. The herbaceous understory is upward for the diversity and production of grasses and forbs, a key component of big game summer range.

### TREND ASSESSMENT

soil - stable (3)

browse - stable (3)

herbaceous understory - upward (5)

## 1997 TREND ASSESSMENT

The soil trend is stable with no erosion apparent. There is adequate vegetation and litter cover to provide protection to the soil. Browse populations show only light utilization. The browse trend appears to be stable. With the high diversity of browse and herbaceous understory species, it is not likely that there will be much change in densities in the future. The herbaceous understory trend is stable and provides abundant summer forage.

### TREND ASSESSMENT

soil - stable (3)

browse - stable (3)

herbaceous understory - stable (3)

## HERBACEOUS TRENDS --

Herd unit 19A, Study no: 5

Type	Species	Nested Frequency			Quadrat Frequency			Average Cover %
		'83	'89	'97	'83	'89	'97	
G	Agropyron spicatum	45	61	39	19	32	18	.13
G	Agropyron trachycaulum	a <sup>-</sup>	a <sup>-</sup>	b <sup>37</sup>	-	-	19	.31
G	Carex spp.	9	3	-	4	1	-	-
G	Festuca ovina	a <sup>297</sup>	a <sup>291</sup>	b <sup>334</sup>	97	93	97	18.85
G	Poa fendleriana	a <sup>15</sup>	b <sup>80</sup>	a <sup>33</sup>	6	38	18	.29
G	Poa secunda	a <sup>17</sup>	b <sup>69</sup>	a <sup>8</sup>	8	35	4	.04
G	Stipa columbiana	a <sup>6</sup>	b <sup>29</sup>	ab <sup>14</sup>	4	12	8	.12
G	Stipa comata	ab <sup>3</sup>	a <sup>-</sup>	b <sup>10</sup>	1	-	5	.10
G	Stipa lettermani	7	4	4	3	3	3	.01
Total for Annual Grasses		0	0	0	0	0	0	0
Total for Perennial Grasses		399	537	479	142	214	172	19.88
Total for Grasses		399	537	479	142	214	172	19.88

Type	Species	Nested Frequency			Quadrat Frequency			Average Cover %
		'83	'89	'97	'83	'89	'97	'97
F	Achillea millefolium	-	-	2	-	-	2	.03
F	Agoseris glauca	a-	a-	b16	-	-	7	.06
F	Allium spp.	a38	a10	b102	19	6	47	.31
F	Antennaria rosea	6	11	3	2	5	1	.03
F	Arabis spp.	2	6	4	1	3	2	.01
F	Arenaria fendleri	a-	ab8	b17	-	3	6	.39
F	Astragalus convallarius	a-	c119	b28	-	54	15	.25
F	Aster spp.	-	-	5	-	-	3	.01
F	Astragalus spp.	b107	a2	a16	50	1	8	.23
F	Castilleja angustifolia	-	1	-	-	1	-	-
F	Castilleja chromosa	a-	b14	b17	-	8	8	.55
F	Castilleja linariaefolia	9	11	22	4	5	11	.59
F	Calochortus nuttallii	4	11	15	3	6	7	.03
F	Comandra pallida	a-	a-	b15	-	-	7	.10
F	Collinsia parviflora (a)	-	-	5	-	-	2	.03
F	Crepis acuminata	a16	b124	a38	9	56	17	.21
F	Delphinium nuttallianum	b50	a14	a20	24	7	10	.15
F	Delphinium occidentale	1	-	-	1	-	-	-
F	Erigeron spp.	ab109	b126	a87	51	57	35	.72
F	Eriogonum umbellatum	-	1	-	-	1	-	-
F	Haplopappus nuttallii	4	-	-	2	-	-	-
F	Heuchera parvifolia	b15	a-	a-	6	-	-	-
F	Hymenoxys acaulis	a-	b18	a-	-	9	-	-
F	Lomatium spp.	a7	b184	a28	2	67	13	.23
F	Lupinus spp.	a73	c190	b181	34	74	68	8.41
F	Lygodesmia spp.	-	-	6	-	-	2	.01
F	Mertensia spp.	a-	a-	b14	-	-	6	.13
F	Penstemon humilis	b59	a35	ab54	32	18	22	.56
F	Penstemon spp.	a2	ab20	b27	2	9	11	.74
F	Phlox longifolia	ab72	b119	a56	32	51	19	.24
F	Polygonum douglasii (a)	-	-	6	-	-	3	.01
F	Ranunculus spp.	-	b56	a-	-	28	-	-
F	Senecio integerrimus	a-	c141	b24	-	62	11	.18
F	Sedum lanceolatum	3	7	18	3	5	9	.07
F	Senecio spp.	b14	a-	a-	6	-	-	-
F	Silene douglasii	9	-	-	4	-	-	-
F	Stellaria jamesiana	a-	b100	c241	-	41	78	4.55
F	Swertia spp.	-	-	4	-	-	2	.18
F	Taraxacum officinale	-	6	3	-	2	1	.00

T y p e	Species	Nested Frequency			Quadrat Frequency			Average Cover %
		'83	'89	'97	'83	'89	'97	
F	Unknown forb-perennial	21	13	9	9	8	5	.05
F	Viola spp.	<sub>a</sub> -	<sub>a</sub> 5	<sub>b</sub> 57	-	3	23	.72
F	Zigadenus paniculatus	-	2	2	-	2	1	.00
Total for Annual Forbs		0	0	11	0	0	5	0.05
Total for Perennial Forbs		621	1354	1131	296	592	457	19.83
Total for Forbs		621	1354	1142	296	592	462	19.88

Values with different subscript letters are significantly different at alpha = 0.10

#### BROWSE TRENDS --

Herd unit 19A, Study no: 5

T y p e	Species	Strip Frequency	Average Cover %
		'97	'97
B	Amelanchier alnifolia	1	.15
B	Artemisia tridentata vaseyana	90	17.29
B	Chrysothamnus viscidiflorus viscidiflorus	2	.15
B	Eriogonum microthecum	2	-
B	Mahonia repens	28	.39
B	Ribes spp.	1	.00
B	Symphoricarpos oreophilus	46	1.96
B	Unknown browse	2	-
Total for Browse		172	19.95

#### BASIC COVER --

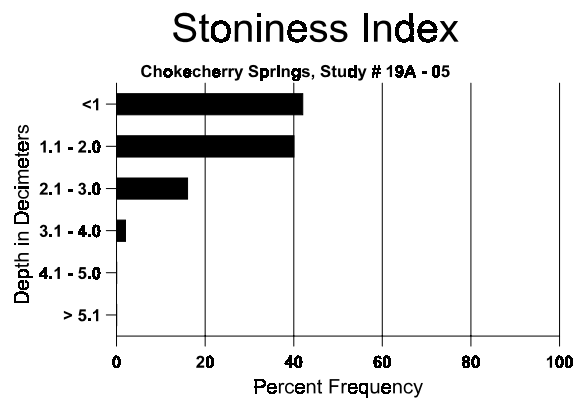
Herd unit 19A, Study no: 5

Cover Type	Nested Frequency	Average Cover %		
		'83	'89	'97
Vegetation	376	4.25	26.00	51.40
Rock	215	9.25	6.75	6.98
Pavement	267	22.75	17.25	9.78
Litter	395	54.75	38.75	43.25
Cryptogams	22	.75	1.00	.32
Bare Ground	231	8.25	10.25	7.69

# SOIL ANALYSIS DATA --

Herd Unit 19A, Study no: 5, Chokecherry Springs

Effective rooting depth (in)	Temp °F (depth)	pH	%sand	%silt	%clay	%OM	PPM P	PPM K	dS/m
13.8	49.2 (16.5)	6.2	52.0	31.4	16.6	4.0	8.3	156.8	0.7



# PELLET GROUP FREQUENCY --

Herd unit 19A, Study no: 5

Type	Quadrat Frequency '97
Sheep	5
Rabbit	1
Elk	1
Deer	5
Cattle	4

## BROWSE CHARACTERISTICS --

Herd unit 19A, Study no: 5

A G R E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Amelanchier alnifolia																		
Y	83	-	2	-	-	-	-	-	-	-	-	2	-	-	133		2	
	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
M	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0	
	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0	
	97	-	-	-	2	-	-	-	-	-	2	-	-	-	40	-	2	
D	83	-	1	-	-	-	-	-	-	-	-	1	-	-	66		1	
	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'83		100%			00%			00%										
'89		00%			00%			00%										
'97		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'83	199	Dec:	33%			
												'89	0		0%			
												'97	40		0%			
Artemisia tridentata vaseyana																		
S	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	97	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1	
Y	83	1	-	-	-	-	-	-	-	-	1	-	-	-	66		1	
	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	97	10	-	-	-	-	-	-	-	-	10	-	-	-	200		10	
M	83	17	10	11	-	-	-	-	-	-	13	20	3	2	2533	20	38	
	89	43	-	-	-	-	-	-	-	-	43	-	-	-	2866	22	43	
	97	110	30	3	-	-	-	-	-	-	143	-	-	-	2860	23	143	
D	83	3	8	2	-	-	-	-	-	-	2	3	2	6	866		13	
	89	17	-	-	-	-	-	-	-	-	17	-	-	-	1133		17	
	97	19	11	-	-	-	-	-	-	-	16	-	1	13	600		30	
X	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	480		24	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'83		35%			25%			25%			+13%							
'89		00%			00%			00%			- 8%							
'97		22%			02%			08%										
Total Plants/Acre (excluding Dead & Seedlings)												'83	3465	Dec:	25%			
												'89	3999		28%			
												'97	3660		16%			

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Chrysothamnus viscidiflorus viscidiflorus																		
Y	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	89	11	-	-	-	-	-	-	-	-	11	-	-	-	733		11	
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
M	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0	
	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0	
	97	2	-	-	-	-	-	-	-	-	2	-	-	-	40	15	2	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'83		00%			00%			00%										
'89		00%			00%			00%			-95%							
'97		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'83	0	Dec:	-			
												'89	733		-			
												'97	40		-			
Eriogonum microthecum																		
M	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0	
	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0	
	97	1	-	-	2	-	-	-	-	-	3	-	-	-	60	-	3	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'83		00%			00%			00%										
'89		00%			00%			00%										
'97		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'83	0	Dec:	-			
												'89	0		-			
												'97	60		-			
Mahonia repens																		
S	83	2	-	-	-	-	-	-	-	-	2	-	-	-	133		2	
	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	97	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1	
Y	83	7	-	-	-	-	-	-	-	-	7	-	-	-	466		7	
	89	34	-	-	-	-	-	29	-	-	57	-	-	6	4200		63	
	97	14	-	-	-	-	-	-	-	-	14	-	-	-	280		14	
M	83	28	-	-	-	-	-	-	-	-	28	-	-	-	1866	4	28	
	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0	
	97	91	-	-	9	-	-	-	-	-	94	6	-	-	2000	3	100	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'83		00%			00%			00%			+44%							
'89		00%			00%			10%			-46%							
'97		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'83	2332	Dec:	-			
												'89	4200		-			
												'97	2280		-			

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Ribes spp.																		
M	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	97	-	-	-	1	-	-	-	-	-	1	-	-	-	20	16	27	1
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'83		00%			00%			00%										
'89		00%			00%			00%										
'97		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'83	0	Dec:	-			
												'89	0		-			
												'97	20		-			
Symphoricarpos oreophilus																		
S	83	-	-	-	-	-	-	-	-	-	-	-	-	0			0	
	89	-	-	-	-	-	-	-	-	-	-	-	-	0			0	
	97	3	-	-	-	-	-	-	-	-	3	-	-	60			3	
Y	83	14	-	-	-	-	-	-	-	-	8	4	-	2	933		14	
	89	10	-	-	13	-	-	8	-	-	31	-	-	-	2066		31	
	97	8	-	-	1	-	-	-	-	-	9	-	-	-	180		9	
M	83	1	-	4	-	-	-	-	-	-	-	5	-	-	333	12	13	5
	89	3	-	-	-	-	-	-	-	-	3	-	-	-	200	11	23	3
	97	75	3	-	24	-	-	1	-	-	103	-	-	-	2060	12	25	103
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'83		00%			21%			11%			+44%							
'89		00%			00%			00%			- 1%							
'97		03%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'83	1266	Dec:	-			
												'89	2266		-			
												'97	2240		-			
Unknown browse																		
Y	83	-	-	-	-	-	-	-	-	-	-	-	-	0			0	
	89	-	-	-	-	-	-	-	-	-	-	-	-	0			0	
	97	3	-	-	-	-	-	-	-	-	3	-	-	60			3	
M	83	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0	
	89	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0	
	97	1	-	-	-	-	-	-	-	-	1	-	-	20	26	37	1	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'83		00%			00%			00%										
'89		00%			00%			00%										
'97		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'83	0	Dec:	-			
												'89	0		-			
												'97	80		-			